<u>Amendments to the Claims</u>

Please replace the Claims as shown below:

1. (Previously Presented) A computer implemented method for determining a preference policy for an auction to be conducted, said method comprising:

selecting characteristics of said auction to be conducted;

selecting a relevant bidding model for said auction to be conducted;

estimating a structure of said auction to be conducted, said estimating comprises expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model;

predicting a bidding behavior for said auction to be conducted;

predicting a first outcome of said auction to be conducted; and

evaluating said first outcome of said auction to be conducted, wherein said evaluating comprises:

selecting an optimal preference policy from a plurality of candidate preference policies for treating different groups of bidders differently, wherein said optimal preference policy comprises the candidate preference policy within a plurality having the highest ranking; and

outputting said optimal preference policy to a participating entity in an auction, said outputting performed prior to conducting said auction.

2. (Previously Presented) The computer implemented method as recited in Claim 1, wherein said selecting characteristics of said auction to be conducted further comprises:

receiving a first user input, wherein said first user input comprises information identifying an item to be auctioned;

accessing a database;

retrieving from said database historical bids data;

retrieving from said database auction characteristics data, wherein said auction characteristics comprise information relating to historical auctions of similar items;

outputting said bids data; and

outputting said auction characteristics data.

3. (Previously Presented) The computer implemented method as recited in Claim 1, wherein said selecting a relevant bidding model for said auction to be conducted further comprises:

receiving said auction characteristics data;

accessing a database;

retrieving from said database a relevant bidding model, wherein said bidding model is selected based on a corresponding relevance of said auction characteristics data; and

outputting said relevant bidding model.

4. (Currently Amended) The computer implemented method as recited in Claim 1, wherein said estimating a structure of said auction to be conducted further comprises:

receiving said relevant bidding model;

receiving ~~said~~ bids data;

transforming said bids data to a sample of inverted bids, wherein said bids data are transformed by inverting said bidding model;

estimating an estimated latent structure of said market, wherein said sample of inverted bids receives application of statistical density estimation techniques to obtain said estimated structure; and

outputting said estimated structure.

5. (Previously Presented) The computer implemented method as recited in Claim 1, wherein said bidding model has embedded an unknown structure, and wherein said predicting a bidding behavior for said auction to be conducted further comprises:

receiving said estimated structure;

receiving said relevant bidding model;

substituting said estimated structure for said unknown structure; and

outputting a prediction of bidding behavior.

6. (Currently Amended) The computer implemented method as recited in Claim ~~4~~ 1, wherein said predicting a first outcome of said auction to be conducted further comprises:

receiving a ~~second~~ first user input, wherein said ~~second~~ first user input comprises:

an evaluation criterion;

a candidate preference policy; and

a constraint;

receiving said estimated structure;

receiving said bidding behavior prediction for said candidate preference policy, wherein said bidding behavior prediction further comprises a prediction under said constraint;

obtaining a value of said evaluation criterion, wherein said value is based on said estimated structure, said bidding behavior prediction, said candidate preference policy, and said constraint, said value comprising said first predicted outcome; and

outputting said value.

7. (Currently Amended) The computer implemented method as recited in Claim ~~6~~ 1, wherein said evaluating said first outcome of said auction to be conducted further comprises:

receiving a ~~third~~ second user input, wherein said ~~third~~ second user input comprises a plurality of candidate preference policies;

receiving a predicted outcome for each said candidate preference policy;

calculating descriptive statistics for each said candidate preference policy, wherein said descriptive statistics comprise a mean and a variance;

ranking each said candidate preference policy with respect to said calculated mean and generating corresponding rankings for said plurality; and

outputting said descriptive statistics and said rankings.

8. (Canceled)

9. (Previously Presented) A computer system comprising:

a bus;

a memory interconnected with said bus; and

a processor interconnected with said bus, wherein said processor executes a method for determining a preference policy for an auction to be conducted, said method comprising:

selecting characteristics of said auction to be conducted;

selecting a relevant bidding model for said auction to be conducted;

estimating a structure of said auction to be conducted, said estimating comprises expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model;

predicting a bidding behavior for said auction to be conducted;

predicting a first outcome of said auction to be conducted; and

evaluating said first outcome of said auction to be conducted, wherein said evaluating comprises:

selecting an optimal preference policy from a plurality of candidate preference policies for treating different groups of bidders differently, wherein said optimal preference policy comprises the candidate preference policy within a plurality having the highest ranking; and

outputting said optimal preference policy, prior to conducting said auction, to a participant in said auction.

10. (Previously Presented) The system as recited in Claim 9, wherein said selecting characteristics of said auction to be conducted further comprises:

receiving a first user input, wherein said first user input comprises information identifying an item to be auctioned;

accessing a database;

retrieving from said database historical bids data;

retrieving from said database auction characteristics data, wherein said auction characteristics comprise information relating to historical auctions of similar items;

outputting said bids data; and

outputting said auction characteristics data.

11. (Previously Presented) The system as recited in Claim 9, wherein said selecting a relevant bidding model for said auction to be conducted further comprises:

receiving said auction characteristics data;

accessing a database;

retrieving from said database a relevant bidding model, wherein said bidding model is selected based on a corresponding relevance of said auction characteristics data; and

outputting said relevant bidding model.

12. (Currently Amended) The system as recited in Claim 9, wherein said estimating a structure of said auction to be conducted further comprises:

receiving said relevant bidding model;

receiving ~~said~~ bids data;

transforming said bids data to a sample of inverted bids, wherein said bids data are transformed by inverting said bid model;

estimating an estimated latent structure of said market, wherein said sample of inverted bids receives application of statistical density estimation techniques to obtain said estimated structure; and

outputting said estimated structure.

13. (Previously Presented) The system as recited in Claim 9, wherein said bidding model has embedded an unknown structure, and wherein said predicting a bidding behavior for said auction to be conducted further comprises:

receiving said estimated structure;

receiving said relevant bidding model;

substituting said estimated structure for said unknown structure; and

outputting a prediction of bidding behavior.

14. (Currently Amended) The system as recited in Claim 12 ~~9~~, wherein said predicting a first outcome of said auction to be conducted further comprises:

receiving a ~~second~~ first user input, wherein said ~~second~~ first user input comprises:

> an evaluation criterion;
>
> a candidate preference policy; and
>
> a constraint;

receiving said estimated structure;

receiving said bidding behavior prediction for said candidate preference policy, wherein said bidding behavior prediction further comprises a prediction under said constraint;

obtaining a value of said evaluation criterion, wherein said value is based on said estimated structure, said bidding behavior prediction, said candidate preference policy, and said constraint, said value comprising said first predicted outcome; and

> outputting said value.

15. (Currently Amended) The system as recited in Claim 14 ~~9~~, wherein said evaluating said first outcome of said auction to be conducted further comprises:

receiving a ~~third~~ second user input, wherein said ~~third~~ second user input comprises a plurality of candidate preference policies;

receiving a predicted outcome for each said candidate preference policy;

calculating descriptive statistics for each said candidate preference policy, wherein said descriptive statistics comprise a mean and a variance;

ranking each said candidate preference policy with respect to said calculated mean and generating corresponding rankings for said plurality; and

outputting said descriptive statistics and said rankings.

16. (Canceled)

17. (Previously Presented) A computer readable medium having encoded therein a computer readable code for causing a computer system to execute a computer implemented method for determining a preference policy for an auction to be conducted, said method comprising:

selecting characteristics of said auction to be conducted;

selecting a relevant bidding model for said auction to be conducted;

estimating a structure of said auction to be conducted, said estimating comprises expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of observable bids by inverting said bid model;

predicting a bidding behavior for said auction to be conducted;

predicting a first outcome of said auction to be conducted; and

evaluating said first outcome of said auction to be conducted, wherein said evaluating comprises:

selecting an optimal preference policy from a plurality of candidate preference policies for treating different groups of bidders differently, wherein said optimal preference policy comprises the candidate preference policy within a plurality having the highest ranking; and

outputting said optimal preference policy to a participant in said auction, said outputting performed prior to conducting said auction.

18. (Previously Presented) The computer readable medium as recited in Claim 17, wherein said selecting characteristics further comprises:

receiving a first user input, wherein said first user input comprises information identifying an item to be auctioned;

accessing a database;

retrieving from said database historical bids data;

retrieving from said database auction characteristics data, wherein said auction characteristics comprise information relating to historical auctions of similar items;

outputting said bids data; and

outputting said auction characteristics data.

19. (Previously Presented) The computer readable medium as recited in Claim 17, wherein said selecting a relevant bidding model further comprises:

receiving said auction characteristics data;

accessing a database;

retrieving from said database a relevant bidding model, wherein said bidding model is selected based on a corresponding relevance of said auction characteristics data; and

outputting said relevant bidding model.

20. (Currently Amended) The computer readable medium as recited in Claim 17, wherein said estimating further comprises:

receiving said relevant bidding model;

receiving ~~said~~ bids data;

transforming said bids data to a sample of inverted bids, wherein said bids data are transformed by inverting said bid model;

estimating an estimated latent structure of said market, wherein said sample of inverted bids receives application of statistical density estimation techniques to obtain said estimated structure; and

outputting said estimated structure.

21. (Previously Presented) The computer readable medium as recited in Claim 17, wherein said bidding model has embedded an unknown structure, and wherein said predicting a bidding behavior further comprises:

receiving said estimated structure;

receiving said relevant bidding model;

substituting said estimated structure for said unknown structure; and

outputting a prediction of bidding behavior.

22. (Currently Amended) The computer readable medium as recited in Claim <u>20</u> ~~17~~, wherein said predicting a first outcome further comprises:

receiving a ~~second~~ first user input, wherein said ~~second~~ first user input comprises:

    an evaluation criterion;

    a candidate preference policy; and

    a constraint;

receiving said estimated structure;

receiving said bidding behavior prediction for said candidate preference policy, wherein said bidding behavior prediction further comprises a prediction under said constraint;

    obtaining a value of said evaluation criterion, wherein said value is based on said estimated structure, said bidding behavior prediction, said candidate preference policy, and said constraint, said value comprising said first predicted outcome; and

    outputting said value.

23. (Currently Amended) The computer readable medium as recited in Claim 22 ~~17~~, wherein said evaluating said first outcome further comprises:

receiving a ~~third~~ second user input, wherein said ~~third~~ second user input comprises a plurality of candidate preference policies;

    receiving a predicted outcome for each said candidate preference policy;

    calculating descriptive statistics for each said candidate preference policy, wherein said descriptive statistics comprise a mean and a variance;

    ranking each said candidate preference policy with respect to said calculated mean and generating corresponding rankings for said plurality; and

    outputting said descriptive statistics and said rankings.

24. (Canceled)

<u>Claim Rejections</u>

101

Claims 1-7, 9-15, and 17-23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The rejection is respectfully traversed for the following rational. Applicants have reviewed the Examiner's reason for rejection under 35 U.S.C. §101 and respectfully submit that the rejection under 35 U.S.C. §101 of Claims 1-7, 9-15, and 17-23 is improper and should be withdrawn.

Applicants respectfully submit that a produced "tangible result" as defined in the MPEP appears to be a tangible result that is <u>produced by the invention as claimed</u>, not produced as in "outputting...in a tangible form". That is, the "tangible form" language provided by the Examiner appears to be merely a superfluous method of presenting the <u>tangible result presently produced by the Invention</u> (emphasis added).

Specifically, Applicants have reviewed related case law and the MPEP and do not understand the "produce a tangible result" language to be limited to an output such as a piece of paper, or display on a monitor.

For example, In *re State Street* , 149 F.3d 47 USPQ2d 1596, 1600-1601 (Fed. Cir. 1998), it was held that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces "a useful, concrete and tangible result"--a <u>final share price momentarily fixed for recording and reporting purposes</u> and even accepted and relied upon by regulatory authorities and in subsequent trades (emphasis added).

Furthermore, MPEP 2106 (2)b) clearly states that the tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a